SAMSUNG

DISHWASHER

Basic model : DW80J3020US

Model Name : DW80R5061UT
DW80R5061US
DW80R5061UG
DW80R5060US
DW80R5060UG
DW80T5040US

Model Code : DW80R5061UT/AA
DW80R5061US/AA
DW80R5061UG/AA
DW80R5060US/AA
DW80R5060UG/AA
DW80T5040US/AC

SERVICE Manual

DISHWASHER

DW80R5061 SERIES

DW80R5060 SERIES
DW80T5040US SERIES

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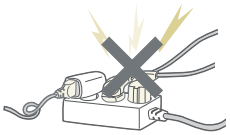
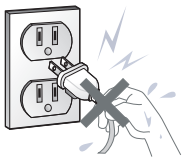
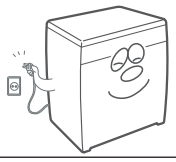
1. SAFETY INSTRUCTIONS

1-1. SAFETY INSTRUCTIOINS FOR SERVICE ENGINEERS

- ▶ Make sure to observe the following instructions to operate the product correctly and safely and prevent possible accidents and hazards while servicing.
- ▶ Two types of safety symbols, Warning and Caution, are used in the safety instructions.

⚠ **Warning**	Hazards or unsafe practices that may result in severe personal injury or death.
⚠ **Caution**	Hazards or unsafe practices that may result in minor personal injury or property damage.

⚠ Warning

Before Servicing	
• (When servicing electrical parts or harnesses) Make sure to disconnect the circuit breaker or power cable before servicing. ➢ Failure to do so may result in a risk of electric shock.	
• Do not allow consumers to connect several appliances to a single power outlet at the same time. ➢ There is a risk of fire due to overheating.	
• When removing the power cord, make sure to hold the power plug when pulling the plug from the outlet. ➢ Failure to do so may damage the plug and result in fire or electric shock.	
• When the dishwasher is not being used, make sure to disconnect the circuit breaker or power cable from the power outlet. ➢ Failure to do so may result in electric shock or fire due to lightning.	
• Do not place or use gasoline, thinners, alcohol, or other flammable or explosive substances near the dishwasher. ➢ There is a risk of explosion and fire caused from electric sparks.	

While Servicing

- Check if the power cable is damaged, flattened, cut or otherwise degraded.
  - ➢ If faulty, replace it immediately.
    Failure to do so may result in electric shock or fire.

- Completely remove any dust or foreign material from the housing, wiring and connection parts.
  - ➢ This will prevent a risk of fire due to arcing and short circuits in advance.

- When connecting wires, make sure to connect them using the correct connectors and check that they are completely connected.
  - ➢ If tape is used instead of the connectors, it may cause fire due to arcing.

- Make sure to disconnect the PBA power terminals before starting the service.
  - ➢ Failing to do so may result in a high voltage electric shock.

- When replacing the heater, make sure to fasten the nut after ensuring that it is inserted into the bracket-heater.
  - ➢ If the nut is not fastened correctly, it can cause a water leak.

After Servicing

- Check for any water leakage.
  - ➢ Perform a test using the standard(normal) cycle and check whether there is any water leakage through the floor section or the pipes.

- Do not allow consumers to repair or service any part of the dishwasher themselves.
  - ➢ This may result in personal injury and shorten the product life.

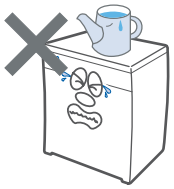
- If it seems that grounding is needed due to water or moisture, make sure to run grounding wires.
  - ➢ Failure to do so may result in electric shock due to electric leakage.

⚠ Caution

Before Servicing

- Do not sprinkle water onto the dishwasher directly when cleaning it.
  - ➢ This may result in electric shock or fire, and may shorten the product life.

- Do not place any containers with water on the dishwasher.
  - ➢ If the water is spilled, it may result in electric shock or fire.
    This will also shorten the product life.



- Do not install the dishwasher in a location exposed to snow or rain.
  - ➢ This may result in electric shock or fire, and shorten the product life.

- Do not press a control button using a sharp tool or object.
  - ➢ This may result in electric shock or damage to the product.

During Servicing

- When connecting a wiring harness, make sure to seal it completely so no liquid can enter.
  - ➢ Make sure that the connections are securing by slightly pulling on them.

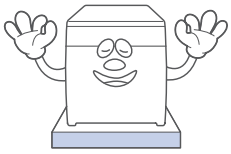
- Check if there is any evidence that liquid has entered electric components or connections.
  - ➢ If any liquid has entered into a part, replace it or completely remove any remaining moisture from it.

- If you need to place the dishwasher on its back for servicing purposes, place a support(s) on the floor and lay it down carefully so the back is on the floor.
  - ➢ Do not lay it down on its front or side. This may result in scratches to the surface or damage to the parts.

After Servicing

- Check the assembled status of the parts.
  - ➢ They must be the same as before servicing.

- Check whether the product is level with the floor and secured to the cabinet and under the counter.
  - ➢ Vibrations can shorten the life of the product.



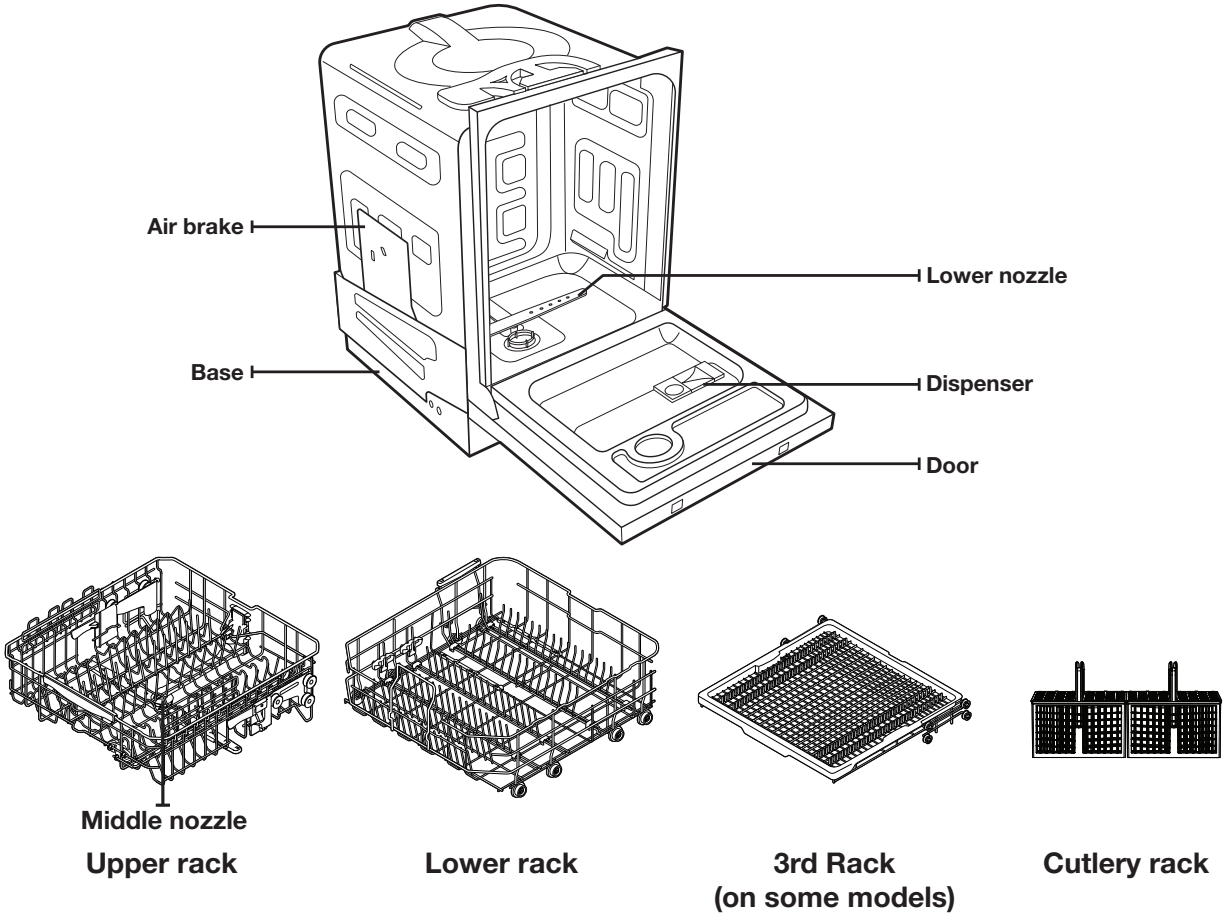
2. FEATURES AND SPECIFICATIONS

2-1. FEATURES

Features	Description	Remarks
Extra large capacity	The upper rack is slanted for larger dishes. The space has been maximized to accommodate a variety of dish sizes.	
Increased convenience	The smart auto cycle determines the level of soil on the dishes and initiates the optimal cycle for cleaning. Use this feature to save water, energy, and time.	
Extremely quiet operation	Efficient noise control technology gives you the quietest possible operation. Your new Samsung dishwasher is quieter than ever.	
Elegant design with digital touch sensors	Digital touch sensors are used in the control panel for more simple operation, with a touch of elegance.	
Storm wash (For applicable models)	With a jet stream like a geyser, Storm Wash effectively cleans big, heavily soiled pots with ease. Look for the built-in extra nozzle and spray in the specialized Storm Washing Zone.	

2-2. SPECIFICATIONS

MODEL name	DW80R506* Series, DW80T5040 Series
Power supply	120 V, 60 Hz AC only
Water pressure	20 ~ 120 psi (140 ~ 830 kPa)
Wash method	Rotating nozzle spray type
Dry method	Auto door system
Power	- Heater : 1100 W - Wash Motor : 150~190W (DW80K5050, DW80R506*, DW80T5040 Series) 60~100W (DW80K7050 Series)
Water consumption	3.1-7.2gal (11.7-27.2ℓ), Normal Cycle



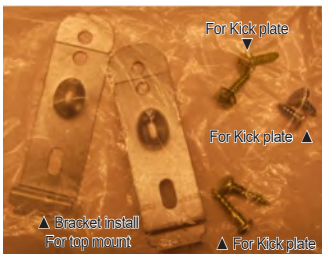
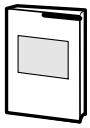
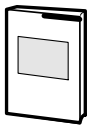
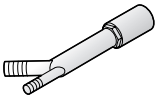
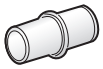
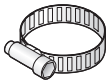
Accessory parts - User/Installation manual, Installation Kit.

Main Features	· Capacity: 15 place settings. · Dimension (W x D x H) : 23 ⅞ x 24 ¾ x 33 ⅞ in. (605 x 627 x 860 mm) (DW80K5050, DW80R5060, DW80T5040 Series)
Sales Point	· Flexible Style : Inclined Rack System, Height adjustable Upper Basket(manual). · Upgraded Kitchen : Pleasant kitchen environment, Simple & Modern design. · Smart Control : Soil sensing Programming, ABS door system.

2-3. COMPARING SPECIFICATIONS WITH EXISTING MODELS

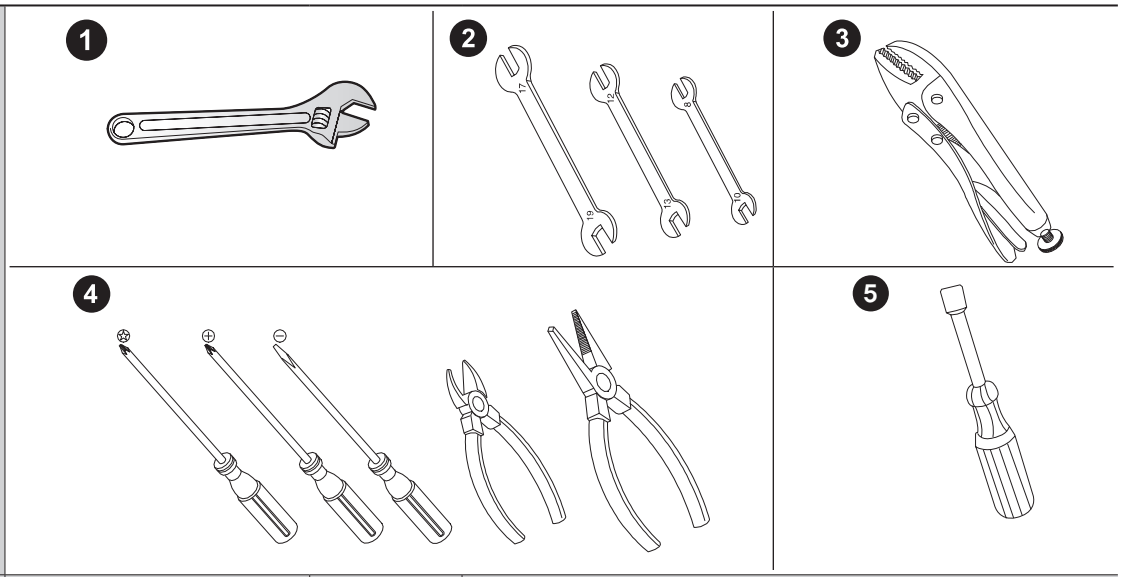
Model	NEW MODEL	BASIC MODEL
	DW80R5061**, DW80R5060**, DW80T5040US	DW80J3020US
Photo		
Design Specifications		
Panel Control	Silver/Black	Silver/Black/White
Control Type	Touch	Button
Frame Front	Silver/Black/Tuscan	Sts/Black/White
Basket Handle	O	X
Function Specifications		
Soil Detection Sensors	O	O
Drying Method	Auto Door System	Air Vent
Basket Height Adjustment	2-Stage	2-Stage
Leakage Sensor	O	O
Programs	6 (Auto, Normal, Heavy, Delicate, Exporess 60, Rinse Only)	4 (Auto, Normal, Heavy, Quick+)
Options	6 (Stormwash™, Delay Start, Half Load, Sanitize, Hi Temp, Control Lock)	3 (Sanitize, Control Lock, Reset)
Options (DW80T5040US)	5 (Lower Rack, Hi Temp Wash, Sanitize, Child Lock, Delay Start)	-

2-4. OPTIONS SPECIFICATIONS

Photo	Item	Code	QTY	Remarks
	Assy-Install Kit : 2 Bracket-install 2 screws for top mounting 2 screws for kick plate	DD94-01002*	1	Provided With the Dishwasher
	User Manual	DD81-02034*	1	
	Install Guide	DD81-02025*	1	
	90° Elbow(3/8”)	-	1	Sold separately
	Water Supply Line (Flexible STS supply line is recommend)	-	1	
	Air Gap	-	1	
	Rubber Connector	-	1	
	Hose Clamp	-	1	
	Strain Relief	-	1	

3. DISASSEMBLY AND REASSEMBLY

3-1. TOOLS FOR REMOVAL AND REASSEMBLY

Tool image			
No.	Tool	Type	Remarks
❶	Adjustable Wrench		
❷	Open-end Wrench	1-7/16”	Leg
❸	Vice pliers		
❹	Others (screwdriver, nipper, long nose pliers)		Common tools for servicing Screwdriver - Philips, flat, Torx T20
❺	Nut Driver	10mm	Heater bracket Nut

*** Preparation for parts replacement**

1. Take out the residual water inside the product.
   (Drain the water by operating the drain pump)
2. Close the water supply valve.
3. Turn off the power & disconnect power cable.
   You must turn off the circuit breaker connected to the product.
4. Pull out the unit from the sink and lay it on the floor.
   Be careful of the drain hose when pulling out the unit.

⚠ Caution

When pulling out or laying the dishwasher down for service, it may be necessary to lower the height of the adjustable legs to provide the clearance for the removal of the unit, prevent breaking the legs, or damaging the base of the unit.

3-2. STANDARD DISASSEMBLY DRAWINGS

Throughout this manual, features and appearance may vary from your model.

⚠ **Warning**

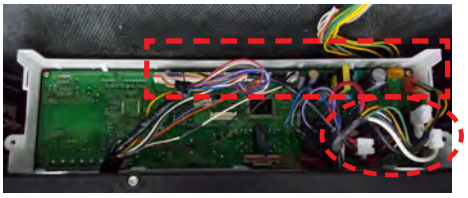
Always disconnect the electric power supply & water supply before servicing any electrical component, making ohmmeter checks, or replacing any parts.

⚠ **Caution**

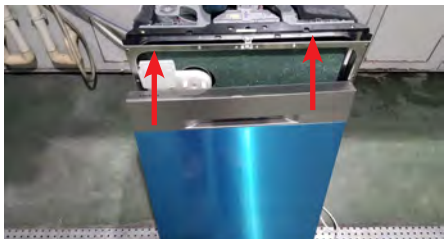
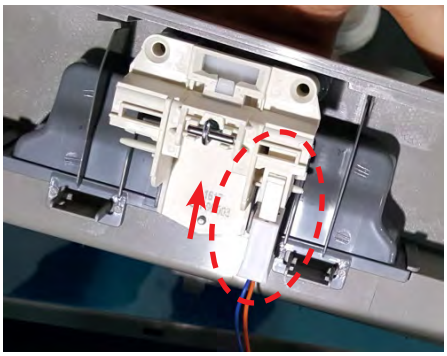
Before moving the unit, laying it down for service, or removing any parts for service be sure to drain as much of the water from the unit as possible. Use a protective mat or towel to prevent damage to the floor or having any of the remaining water spill on the floor.

All voltage checks should be made with a voltmeter having a full scale range of 250 volts or higher. After service is completed, be sure all safety grounding circuits are complete, all electrical connections are secure, and all access panels are in place.

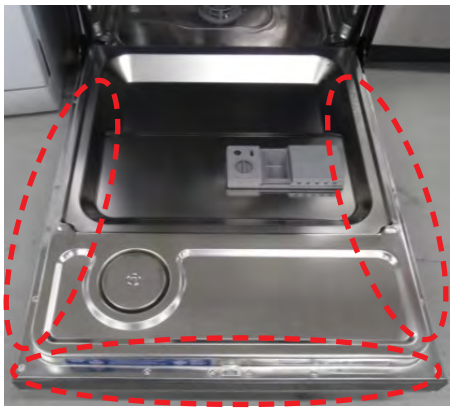
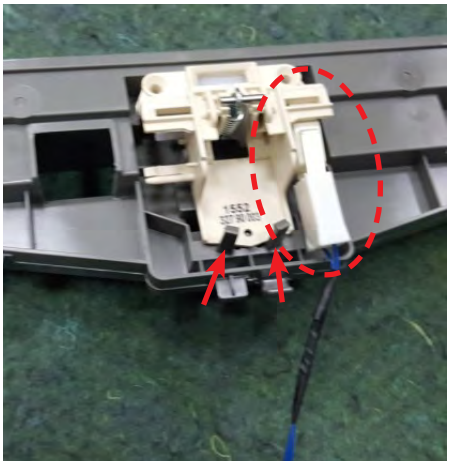
Before servicing, make sure to remove all items from inside of the dishwasher, including the wash racks.

Part	Figure	Description
Main PBA		**Preparation:** • Make sure to disconnect the power. 1. You can see the Main-PBA case under the door. 2. Remove the two (2) screws of PBA case and pull out the PBA cover carefully.
	 	3. Remove all connectors on the PBA.
	 	4. Remove the three (2) screws on the PBA board . 5. Pull out the PBA board carefully. When removing the Main PBA, lift the PBA board up carefully because it is hanging on the PBA case by three (3) hooks.

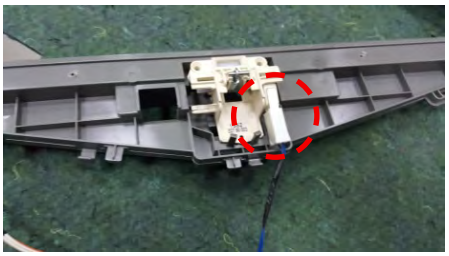
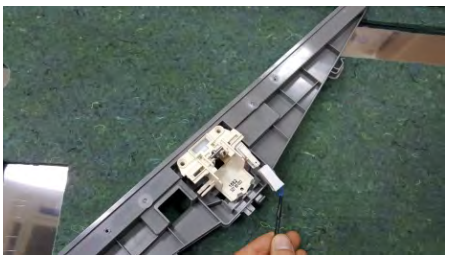
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Door outer **(DW80R5060** DW80T5040**)**		**Preparation:** • Make sure to disconnect the power. • Remove the lower basket in the dishwasher. • Cover the Assy sump with a towel to prevent losing screws. 1. Open the door completely. Remove the 12 screws holding the tub front, frame front, and control panel in place.
	 	Before removing the parts, place a cushioned mat on the floor to prevent the parts from being scratched. After removing screws, make sure to hold the tub front using your hand. It can prevent closing door suddenly and harming you. ⚠ **Caution** Do not place the removed screws on the tub front. They may fall into the sump assy. 2. Pull out the Frame front & the Assy control panel carefully.
		3. Remove the Assy control panel from Door outer. (Pull out just a little.)
Door Lock Switch **(Door latch)** **(DW80R5060** DW80T5040**)**		**Preparation**: • Disassemble the frame front. 1. When removing the door latch, lift it up because the latch is secured by two hooks. Use a flat screwdriver to remove it. 2. Release the micro switch.

※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Door outer **(DW80R5061**)**		**Preparation:** • Make sure to disconnect the power. • Remove the lower basket in the dishwasher. • Cover the Assy sump with a towel to prevent losing screws. 1. Open the door completely. Remove the 12 screws holding the tub front, frame front, and control panel in place.
	 	Before removing the parts, place a cushioned mat on the floor to prevent the parts from being scratched. After removing screws, make sure to hold the tub front using your hand. It can prevent closing door suddenly and harming you. **Caution** Do not place the removed screws on the tub front. They may fall into the sump assy. 2. Pull out the Frame front & the Assy control panel carefully.
		3. Remove the Assy control panel from Door outer. (Pull out just a little.)
Door Lock Switch **(Door latch)** **(DW80R5061**)**		**Preparation**: • Disassemble the frame front. 1. When removing the door latch, lift it up because the latch is secured by two hooks. Use a flat screwdriver to remove it. 2. Release the micro switch.

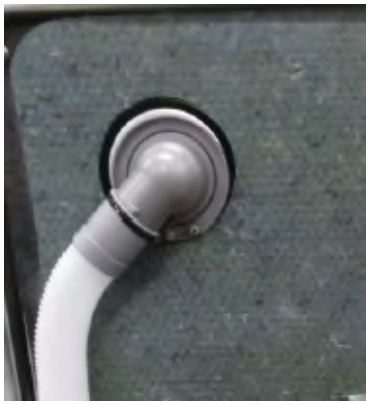
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Control Panel **(DW80R5061**)**	 	**Preparation:** • Disassemble the door outer. 1. Remove the Door lock switch from Assy panel control.
	 	2. Remove the wire connectors from Panel control.

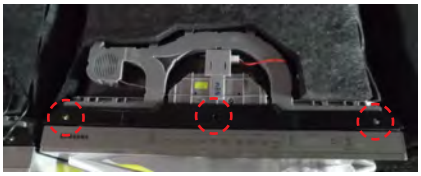
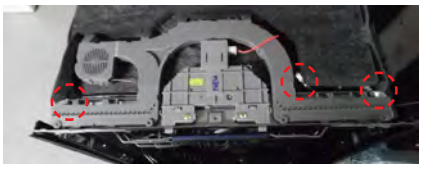
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
DUCT-CONDENSER		1. Open the door completely. Remove the twelve (12) screws holding the tub front, frame front, and panel control in place. ⚠ **Caution** : Before removing the screws, place a cushioned mat on the floor to prevent the handle and frame front from being scratched, After removing them, make sure to hold the tub front with your hand while you are working as the tub may close and harm you. ⚠ **Caution** : Do not place the removed screws on the tub front. They may fall into the sump assy.
		2. Remove the single (1) screw holding the bracket cover fan in place.
		3. Remove the cover fan by rotating it counterclockwise. Use a jig. If you have no jig, use a tool such as a pair of long nose pliers. Remove it carefully so that the part is not damaged.
		4. Remove the two (2) screws holding the cover fan in place.

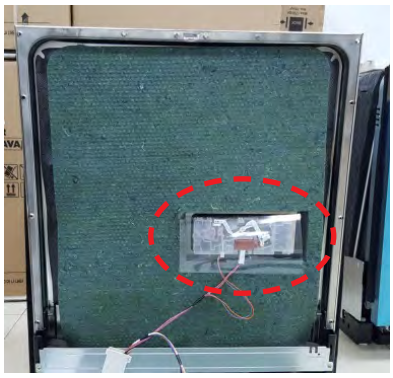
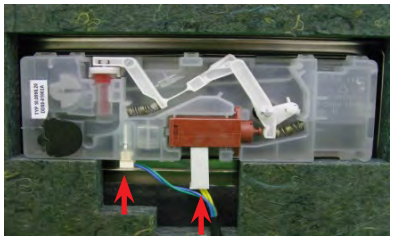
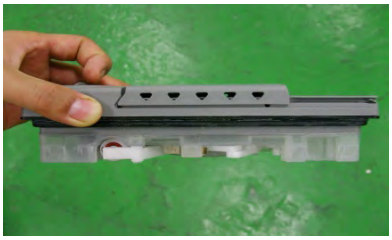
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
DUCT-CONDENSER		5. Hold and remove both the case vent assy which are located at the front of the tub front.

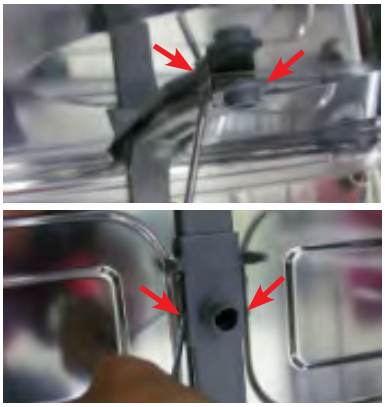
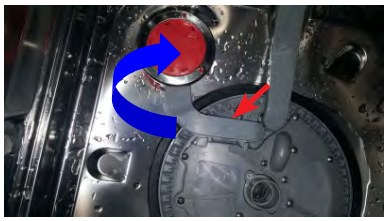
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Auto door dry system (For applicable models)		1. Remove three(3) screws holding the Guide Air Blow from the Assy Air nozzle
		2. Remove the Guide Air Blow from the Assy Air nozzle
		3. Remove the two(2) screw holding the Assy Air nozzle to the Bracket frame 4. Disconnect the two (1) wire from the Assy Air Nozzle 5. Remove the Assy Air Nozzle from the Bracket Frame
		6. Remove the two(2) screw holding the cover door switch to the assy tub 7. Disconnect the two (1) wire from the cover door switch 8. Remove the cover door switch from the assy-tub

※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Dispenser		**Preparation:** * Disassemble the Door outer. - Refer the “Door-outer” disassembly section to separate the Door outer.
		1. Disconnect the two (2) wire from the Dispenser.
	  	2. The dispenser is fixed to the tub front with several hooks. Use a flat tip screwdriver to remove it . 3. Push it to the inside carefully. ⚠ **Caution** Be careful as the tub front is sharp.

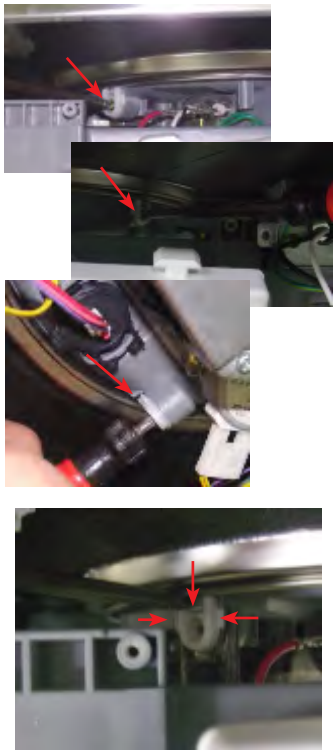
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Assy Rotor		**Preparation:** * Remove the lower basket in the dishwasher. * Make sure to remove the water in each nozzle to block the wet. (The DW80F800/DW80F600 models nozzle is different shape but disassemble method is same as below.) 1. Upper Nozzle : Remove it by rotating the holder. (counterclockwise)
		2. Middle Nozzle : Remove it by rotating the holder from upper basket. (counterclockwise)
		3. Lower Nozzle : Pull out carefully it from the Assy sump.
Duct-Main		1. The duct nozzle is fixed by two brackets inside tub. 2. Use a flat tip screwdriver to pry the tabs that are securing the bracket duct from the top and the middle of the tub. : Be careful not to let the screwdriver slip when prying the tabs. Doing so will cause damage to the tub.
		3. Remove the duct nozzle by rotating to left side.
		4. Remove the screw 5. Rotate the Assy storm wash nozzle clockwise

※ Reassembly is in the reverse order of the removal.

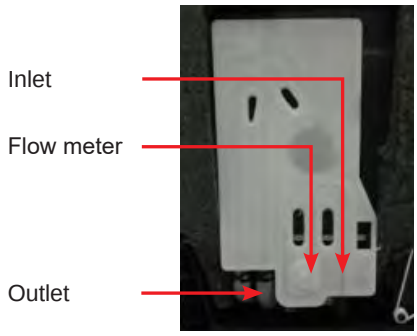
Part	Figure	Description
Assy Sump - Upper parts Filter Mesh body Cover Sump		**Preparation:** * Remove the baskets, nozzles and storm wash nozzle. - Refer the each disassembly section to separate. 1. Release the 13 screws on Assy sump. (Except the two (2) screws holding the holder nozzle in the center of the sump.) Take off the filter mesh body, cover sump(& holder nozzle L).
		2. Pull out the Assy cover sump slightly and hold and rotate the duct nozzle and Assy case sump together.
		3. Remove the screw (1) that is fixing the impeller and circulation motor shaft. ⚠ **Caution** Use gloves for your hand to hold the impeller during removing the screw. Be careful, the impeller can injure your hands if gloves are not worn.
		(Only for DMT800, DW80F800,DW80J5050 Series) 4. Remove the plate-distribute. 5. Remove the case scroll. Check if the seal rubber scroll is normal. If it is damaged or hardened, replace it. 6. Remove the cutter disposer ⚠ **Caution** Both sides of cutter are sharp. Be careful when removing it. When replacing the cutter, place the side with the “U” facing up. : Place the removed parts in a safe location to prevent them from being damaged. The DW80F800/DW80F600 models heater is different shape.

※ Reassembly is in the reverse order of the removal.

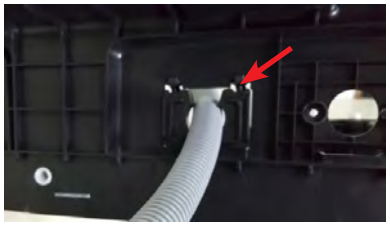
Part	Figure	Description
Assy Sump		**Preparation:** * Disassemble the baskets, nozzles, duct nozzle & storm wash nozzle. * Disassemble the frame left & the shutter & bracket front lower. - Refer to each disassembly section. 1. Remove the parts which are connected to the Assy sump. - connectors, drain pump, screws
		2. Remove the three (3) screws & holders in Assy sump.. : Pull out the holders using a pair of needle nose pliers. At the same time, press the tab at the top of the holder using a screwdriver.
		3. Push the Assy sump using your hands toward the inside carefully. **Caution** Remove the water from the sump assembly before removing the sump assembly. Failure to do so will cause to be released onto the floor.

※ Reassembly is in the reverse order of the removal.

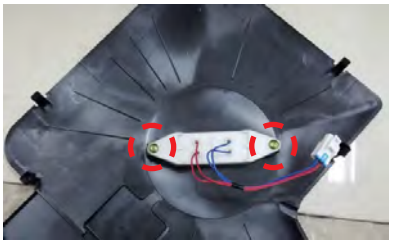
Part	Figure	Description
Heater		**Preparation:** * Make sure to disconnect the power. * Disassemble the cover sump & cutter disposer. * Disassemble the shutter & bracket front lower. - Refer the each disassembly section.
		1. Remove the two (2) heater connectors. 2. Remove a ground screw on the heater bracket.
		3. Loosen the nut between the heater terminals.(10mm). 4. Remove the heater by pulling it out of the sump assembly ⚠ **Caution** The heater may be very hot. Make sure to check it before touching the heater. ⚠ **Caution** Make sure to check if there is any water in the sump assembly. Remove any remaining water, to prevent water leakages while servicing.

Part	Figure	Description
Assy Case Brake	 Assy case brake	
		Preparation: * Make sure to disconnect the power, water supply, and drain hose connections. * Remove the upper & lower baskets in the dishwasher. * Pull out the dishwasher carefully. 1. Remove the two (2) screws of the frame left. 2. Remove the frame left. ⚠ **Caution** Make sure to wear gloves when removing it. Be careful as the steel plate is sharp and may cut you.
		3. Remove cover brake by rotating. (counterclockwise) Use a jig. If you do not have a jig, you can use a needle nose pliers. (Be careful when removing the cover as it is easily damaged.)
		4. Loosen the four (4) clamps and release the four (4) hoses from the Assy case brake. ⚠ **Caution** Water remaining in the Assy case sensor and Assy case break will come out. Lay a towel on the floor to absorb any water that may come out.

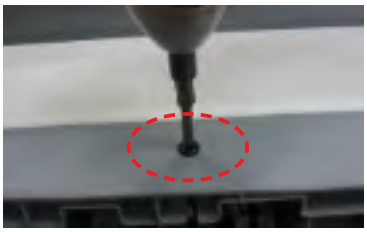
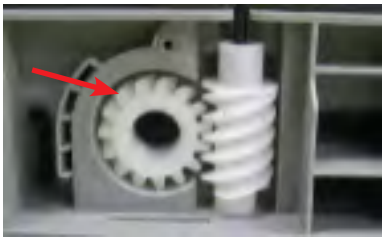
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Drain Hose		**Preparation:** * Disassemble the Assy case brake. - Refer to the Assy case brake disassembly section to separate. 1. Loosen the clamp(left side in picture) and release the hose from the Assy case brake.
		2. You can see the hose holder in the dishwasher backside. 3. Push the two(2) hooks of the drain hose holder to inside.
		4. Pull out the hose carefully at the side position. 5. Remove the hose holder by releasing the hook. 6. Remove drain hose entirely.

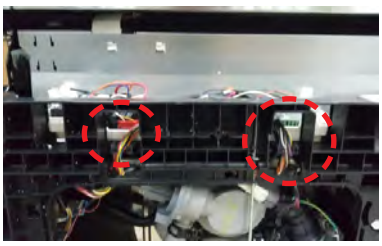
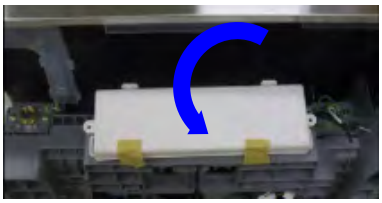
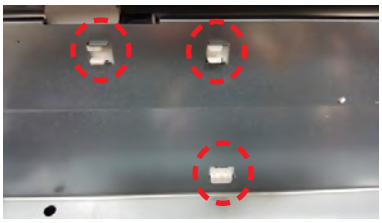
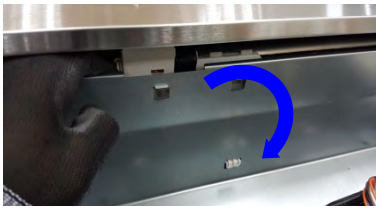
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Shutter		**Preparation:** * Make sure to disconnect the power, water supply, and drain hose connections. * Remove the upper & lower baskets in the dishwasher. * Pull out the dishwasher carefully. 1. Lay the dishwasher down on its back. Remove the one (1) screw securing the shutter to the base. 2. Pull out the shutter and release the leakage sensor connector.
		3. Remove the leakage sensor from the shutter by unfastening the two(2) screws.

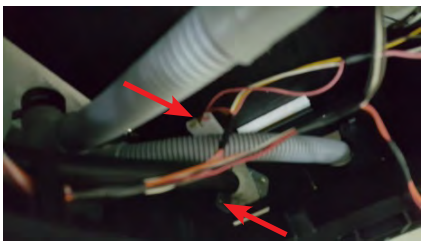
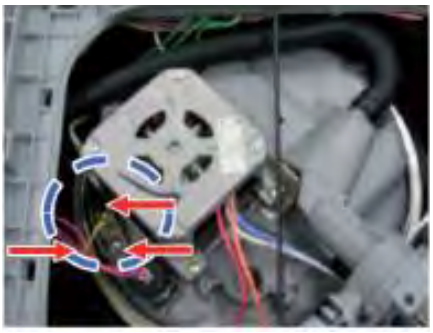
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Rear Leg + Adjust bar		**Preparation:** * Make sure to disconnect the power, water supply, and drain hose connections. * Remove the upper & lower baskets in the dishwasher. * Pull out the dishwasher & lay the dishwasher down on its back. * Remove the shutter. 1. Turn the rear leg adjusting screw clockwise until the rear adjusting leg is fully extended.
		2. Remove the screw that is holding the case gear to the unit.
		3. The case gear is made up of a worm gear and helical gear. Pull out the worm gear first.
		4. Grab the adjusting bar and pull it out while pushing the helical gear from the backside. : The adjusting leg bar is attached to the base by a hook, which is indicated in the red circle in the the image to the left.

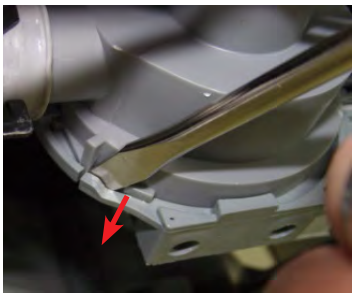
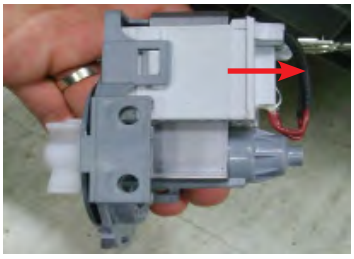
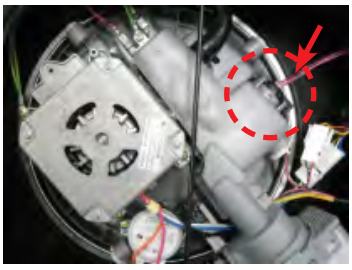
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Bracket front lower		**Preparation:** • Make sure to disconnect the power, water supply, and drain hose connections. • Remove the upper & lower baskets in the dishwasher. • Pull out the dishwasher & carefully lay the dishwasher down on its back. • Remove the water supply line(& elbow). ⚠ **Caution** Make sure to turn the water supply off before removing the water supply line. 1. Remove the cover PCB and pull out the case PCB without disconnecting wire connectors. - When remove the PCB, lift up the two(2) clasps under the base by using a flat tip screwdriver in a lever effect.
		2. Pull out the case PCB and secure it to the base using duct tape. Shown in the image to the left.
		3. Remove the four (4) screws on both sides of the bracket front lower.
		4. The guide wire is attached to the bracket front lower with three hooks. Use a pair of needle nose pliers or flat screwdriver.
		5. Using a Philips screw driver, lift up the each clasp on both sides of the bracket front lower.
		6. To remove the bracket front lower entirely, grab the top of the bracket front lower (on both sides) and pull the top out. At the same time, push the bottom of the bracket front lower (on both sides) in towards the unit.

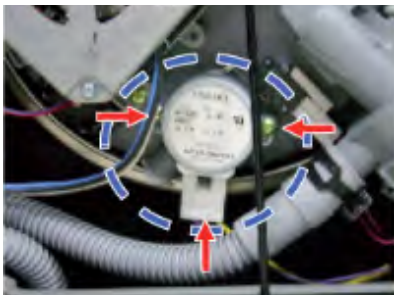
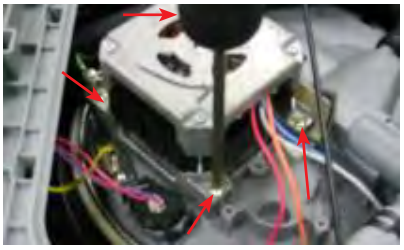
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Water Valve		1. Remove the two (2) screws from the Base.
		2. Lift up the inlet valve and disconnect the inlet valve wire connector. 3. Release the hose clamp and disconnect hose.
		⚠ **Caution** Caution : When removing the hose clamp, take care to hold it tightly. The clamp is under tension and if released, it can become a projectile. ⚠ **Caution** There will be a residual amount of water in the valve and valve hose. Use a towel to absorb the water when removing the valve.
Thermistor		**Preparation:** • Disassemble the shutter. - Refer to “shutter” disassembly section. 1. Disconnect the wire terminal connected to the thermistor. 2. Release the two(2) screws of thermistor.
		3. Pull out it carefully. Inspect the “O” ring seal on the thermistor. If it is damaged in anyway, replace the “O” ring seal.

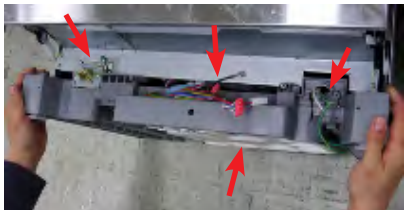
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Pump-Drain		**Preparation:** • Disassemble the shutter. - Refer to the “shutter” disassembly section. 1. Remove the drain pump by gently prying up the locking tab on the pump. Then rotate the pump clockwise until it releases from the sump. Then pull the pump out. ⚠ **Caution** Remove all water from the sump assembly before removing the pump. Failure to do so will cause the water to be released onto the floor. : Inspect the “O” ring seal around the drain pump. If it is damaged in any way, replace the “O” ring seal.
		2. Disconnect the two(2) drain pump connectors.
Sensor-Turbidity		**Preparation:** • Disassemble the shutter. - Refer to the “shutter” disassembly section. 1. Remove the turbidity sensor connector.
		2. Gently pry up the tabs on the turbidity sensor and pull it out of the sump assembly. ⚠ **Caution** Carefully use a flat tip screwdriver to pry the tabs on the sensor as the tabs are fragile and can be damaged easily. : Inspect the “O” ring seal around the sensor. If it is damaged in anyway, replace the “O” ring seal.

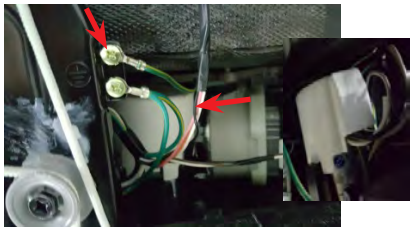
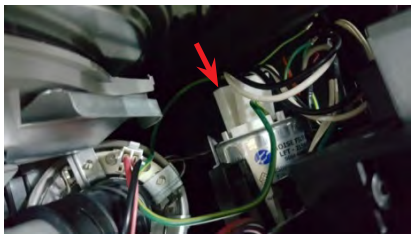
※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Distributor Motor		**Preparation:** • Disassemble the cover sump & case scroll. - Refer to the “cover sump” disassembly section. • Disassemble the shutter. - Refer to the “shutter” disassembly section. 1. Remove the distributor motor connector 2. Remove the two (2) screws that hold the distributor motor in place
		3. Pull out the distributor motor and micro switch which is held in by tabs. Be careful when removing the distributor motor. The cam switch and seal are on the shaft side.
Circulation Motor		**Preparation:** • Disassemble the cover sump & cutter disposer and shutter. - Refer to each disassembly section. 1. Remove the circulation motor and capacitor connection.
	 	2. Remove the four(4) screws holding the circulation motor and the sump in place, and the one(1) screw for earth connection from main wire-harness. 3. Hold and pull out the circulation motor carefully to remove it from the sump. ⚠ **Caution** Remove the water from the sump assembly before removing the motor. Failure to do so will cause to be released onto the floor. ⚠ **Caution** Be careful not to break the oil seal when removing the motor.

※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
Base		**Preparation:** • Disassemble the frame L/R and the shutter. - Refer to each disassembly section. 1. Remove the eight (8) screws on the base plate both-sides.
		2. Carefully lay the dishwasher down on its back. 3. Remove the cover PCB and pull out the case PCB and disconnect the wire connectors. 4. Disconnect the wire connectors from Assy Sump.
		5. Pull out the base plate slightly. 6. Remove other parts as needed to remove the base. Ex. Main wire-harness. Hoses

※ Reassembly is in the reverse order of the removal.

Part	Figure	Description
EMI Filter		1. Remove the two (2) screws on the frame-R. (in Red circle)
		2. Remove the ground wire screw form the door hinge. 3. Remove the Cover from the EMI Filter.
		3. Disconnect the two (2) wires from the EMI filter.
		4. Use a wrench to remove the M8 nut from the EMI filter.

※ Reassembly is in the reverse order of the removal.

4. TROUBLESHOOTING

4-1. PREPARATION

4-1-1. Check Code (S/W ver. 7134~)

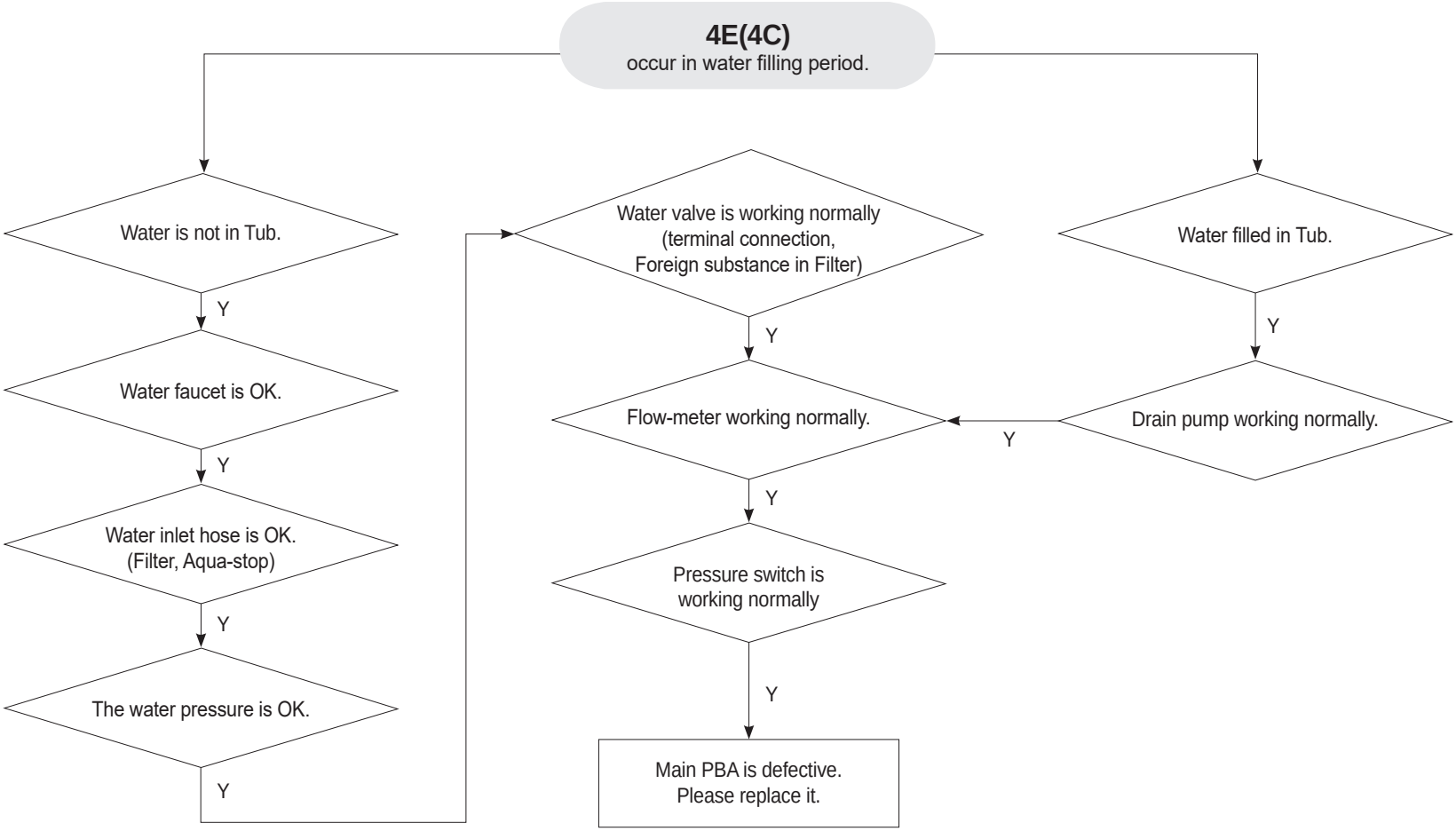
Check code Display	Check code Recall	When occur	Symptom	Possible Causes
4C	4C	- When the number of detected water supply pulses is less than 10 within 20 seconds after water is supplied. - When the target water level is not reached within 60minutes after water is supplied.	- If check code has occurred when the number of detected water supply pulses is less than 10 within 20 seconds after water is supplied, the water supply valve is turned on once and waits. - All driving parts except for the drain part are turned off and draining (20 seconds ON/ 5 seconds OFF) is performed for 3 minutes.	- The water supply pressure is low. - The water supply valve is closed. - The aqua stop is out of order. - The case brake fails to detect the pulse.
No display	5C	- Dishwasher is not draining.	- Keep going remained cycle.	- A foreign object has entered the drain pump and the pump is stuck. - The drain pump is out of order. -The Main PBA is out of order. - The Inverter PBA is out of order.
5C	5C1~5C5	- Drain pump check code occurred 11 times, 5minutes pause and retry. when pause condition is occurred 3times.	- The driving parts stops. - Retry until 2nd time, and then 3rd time display check code.	
No display	PC	- When the location is not detected for 2 minutes after the synchronous motor operation. (after 1minute, Synchronous stop. and then after 1sec retry with c-pump also stopped condition)	- Vane move to reset location and keep going remained cycle with heater off condition.	- The synchronous motor is out of order. - The location in the cam is incorrect.
No display	tC	- When the temperature sensor data output is equal to or greater than approximately 4.5V or is equal to or less than approximately 0.2V - When the water temperature is detected as equal to or less than -3oC for 30 seconds in succession during the cleaning the heater operation.	- Heater off and keep going remained cycle. - No Rinse aid during rinse cycle - if C-pump RPM target 3000, change to 3000rpm.	- The thermistor is out of order.

Check code Display	Check code Recall	When occur	Symptom	Possible Causes
No display	HC1	- The start temperature is saved 30 seconds after heating starts. Thereafter, if the temperature change is equal to or less than 4℃ for 10 minutes, the heater relay is turned off for 1 second and then restarts heating. Then, if the temperature change is equal to or less than 4oC for 10 minutes again, an HE-1 check code occurs.	- Keep going remained cycle with heater off condition.	- The heater is out of order. - The heater is improperly connected.
HC	HC	- When the temperature is measured as equal to or greater than 80oC for 3 seconds.	- The driving part stops and the main relay is turned off.	- The heater is out of order. - The thermistor is out of order.
No display	bC2	- When the button is pressed and held for 30 continuous seconds or longer.	-Keep going remained cycle	- The touch button is out of order. - An object is on the touch button.
No display	bC3	- When IC communications between the Sub PBA and the touch button fails.	-Keep going remained cycle	- The touch button is out of order. - The sub PBA or touch button PBA is not properly connected.
No display	AC	- When communications between the main PBA and the sub PBA fails for 24 seconds. (In Test Mode, communication fails for 6 seconds.)	-Keep going remained cycle	- The main PBA or sub PBA is out of order. - The communications connection for the main PBA or sub PBA is not properly connected.
No display, change to pause	AC6	- When the response is not received from inverter PBA for 3 seconds, Inverter RELAY OFF for 2 minutes. After repeated 3 times, display the check code	- Inverter Relay 2min off, 3sec on(until find response) - Display change to pause	- The main PBA or Inverter PBA is out of order. - The communications connection for the main PBA or Inverter PBA is not properly connected.
LC	LC	- When the water leakage sensor data is equal to or less than 3V for 3 seconds.	- Main relay off. - If sensor data over 3V is detected after draining (20 seconds on/5 seconds off) is performed for 3 minutes, the drain pump is turned off. If data over 3V is detected, draining is performed for 3 minutes and then the sensed data is checked again.	- There is a water leak.

Check code Display	Check code Recall	When occur	Symptom	Possible Causes
OC	OC	- When the overflow sensor data is equal to or less than 3V for 5 seconds.	- If check code has occurred when set operating, 3times ‘3min drain’ retry, and display “OC” (No operating condition, display “OC” without retry) - During retry 3times, display ‘pause’	- The case brake fails to detect the pulse. - The valve water is out of order.
No display	dC3	- In case the Auto Door Open device operates, When the door opening is not sensed. (Auto Door Open device action retry 3 times)	- Keep going remained cycle	- The touch button is out of order. - The sub PBA or touch button PBA is not properly connected.
No display	FC	- When Fan Motor Rpm is measured less than 3000rpm. (Fan motor action retry 6 times)	- Keep going remained cycle	
No display	4C5	- When the number of detected water supply pulses are 200 at the Non-water supply mode. → Repeats water valve on(1seconds) / off(1seconds) 2 times	- Keep going remained cycle	- The water valve out of water.

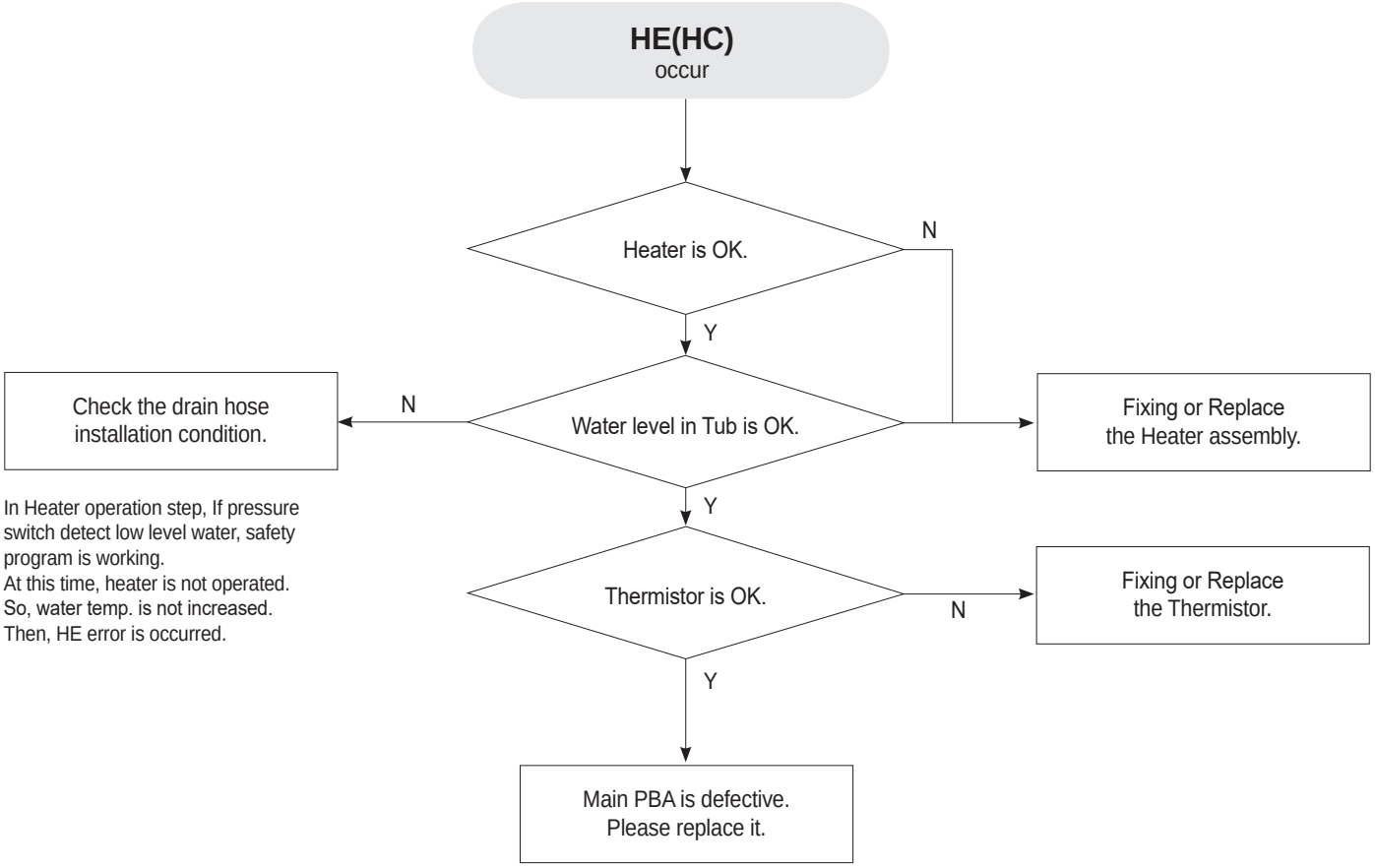
Resolution by symptom

- **4E(4C) :** When water supply is not working



Resolution by symptom

- **HE(HC) :** When heater is not working



4-2. SERVICE INSPECTION MODE

■ SVC Test mode

Item	Related Parts	Symptoms	Description
Enable Smart Install Mode			- 1) Set the timer for 17h with Power On. - 2) Press Hi-Temp Wash Key for at least 7 seconds.
Disable Smart Install Mode			When Power Key is pressed, it is disabled with Power Off.
Smart Install Mode Configuration			There are Auto Mode and Manual Mode. When Smart Install Mode is enabled, it is set to Auto Mode by default.
Smart Install Mode Display			- Displays “AS” before Auto Mode is enabled. - If Rinse Aid is not sufficient, Rinse Aid ICON turns on. - During Auto Mode, the current Step No. blinks as an indication.
Auto Mode Configuration			When Start Key is pressed, it automatically progresses from Step 1 to Step 6. - With the door open, "dC(dC1)“ and "AS“ blink as an indication. The door must be closed in order to operate. - If the door stays open for 3.7 seconds after Start Key is pressed, "AS“ turns on and Start Key must be pressed again. - If the door opens during operation, it stops and “AS“ turns on. However, this does not apply once Auto Door Open is activated. - For models with a vane, the vane must be always positioned at parking when the bottom nozzle starts spraying (to prevent leakage). 1. During Auto Mode, all keys except Power Key are deactivated. During Auto Mode, Sub Mode cannot be changed manually. 2. [Auto Mode STEP 1: check drainage and vane.] 1. Turn on the drain pump. (Use the following steps/ no drain error detection.) - drain pump on for 14 seconds -> drain pump off for 2 seconds -> drain pump on for 14 seconds -> off for 5 seconds -> complete 2. Move the vane back and forth while draining step is in progress. (※ applicable to models with a vane only) 3. Once the draining step completes and the vane operates normally, proceed to [STEP 2].

Item	Related Parts	Symptoms	Description
Auto Mode Configuration			3. [Auto Mode STEP 2: check water supply] 1) Supply 4.5L of water. ※ Water supply error: detected in the same way as normal water supply error but if water is not fully supplied for a maximum of 5 minutes, the water supply inspection code is activated. 2) Water supply operates (including the internal pressure calibration) according to the development model specifications. 4) Once the water supply, internal pressure calibration and alternating motor operation completes, proceed to [STEP3]. 4. [Auto Mode STEP 3: check nozzle] 1) Operate the circulation pump. (BLDC: 2400RPM, AC Pump: LOW (default)/HI Setting) 2) Operates the alternating motor in the order of the locations where alternation takes place during the water supply step. Skip any unused alternation. Operate for 10 seconds each time after it reaches the target alternation location. ex> Location #1: 10 seconds, Location #2: 10 seconds , Location #3: 10 seconds, … Location #6: (10 seconds) Location #1: 10 seconds ※ For models with AC circulation pump, operate in the order of LOW (starting alternation)->HI -> LOW -> for each alternation location. When the last alternation completes, the circulation pump operates from LOW (starting alternation) again. ※ For models with vane, operate the vane when operating the bottom. 4) Operate Dispenser Actuator for 130 seconds. 5) If the temperature increases by 2 degrees or more 30 seconds after 1 Cycle of the alternating motor and the circulation pump starts, and Dispenser has operated for 130 seconds, skip to [STEP4]. 6) If the temperature does not go up after 10 minutes, HC1 error occurs. 7) If the temperature reaches 73 degrees or higher, the heater is forced to stop. 5. [Auto Mode STEP 4: check drain] 1) Operate the drain pump. 2) Follow the same steps as PreDrain. 3) If low water level is not detected in the first cycle after draining starts, the drain inspection code is activated. 4) For models without low water level detection, proceed to the next step after draining without the drain inspection code.

Item	Related Parts	Symptoms	Description
Auto Mode Configuration			6. [Auto Mode STEP 5: check drying] 1) Operate Auto Door Open Actuator. - If the door is not opened for 3 minutes after Auto Door Open Actuator is operated, the dC3 inspection code is activated. 2) If the door open is detected after Auto Door Open, operate for additional 30 seconds from the time the door opens and complete the Auto Door Open step. 3) Operate Fan Motor for 30 seconds. 4) Once the above 1), 2) and 3) are complete, proceed to [STEP 6]. 7. [Auto Mode STEP 6: complete the Auto Mode operation] 1) "OK" displays. 2) At the time Auto Mode operation completes, Smart Install Auto Mode Completion is saved to EEPROM.

Item	Related Parts	Symptoms	Description
Manual Mode Configuration			- Each time Auto Key is pressed, the Manual Mode step changes indicating Step No. - After Max Step No. is selected, it is automatically changed to Auto Mode "AS". - Start Key must be pressed to start the Manual Mode steps. - With the door open, "dC(dC1)“ and "Step No.” display alternately. The door must be closed to operate. - If the door stays open for 3.7 seconds after Start Key is pressed, only Step No. displays and Start Key must be pressed again. - Once this Manual Mode step is complete, the Step No. stays turned on in the display. - If the door opens during operation, it stops and the step indicator turns on. (However, Auto Door Open Mode is an exception. The operation is resumed as it detects the door is open.) - When restarting, the mode starts from the beginning. - For models with a vane, the vane must be always positioned at parking when the bottom nozzle starts spraying (to prevent leakage). 1. [Manual Mode STEP 1: drain / supply of water] 1) Perform Auto Mode STEP 4 (drainage) and STEP 2 (water supply). 2. [Manual Mode STEP 2: check the nozzle] - Each time Normal Course Key is pressed, the setting changes by 100rpm (it can be set to 1201~3500RPM). BLDC circulation pump model: 2400 (default RPM) -> 3400 -> 3500-> 1201 -> 1300 -> .... AC circulation pump model: change to Low (default) -> Hi ->Low -> Hi -> ... (When the key is pressed, the RPM displays for 2 seconds.) - Each time Heavy Course Key is pressed, the alternation nozzle position can be set and it starts from its default position. Unused alternation cannot be set. No. 1 (default: the default position varies by model)-> No. 2 -> No. 3 -> No. 4 -> No. 5 -> No. 6 (max. alternation target position: varies by model) -> No. 1 -> Please refer to [Dish Washer-Washing Performance Specifications-Distributor Control] for the specifications of alternation position by model. (When the key is pressed, the current target alternation position displays for 2 seconds.)

Item	Related Parts	Symptoms	Description
Manual Mode Configuration			※ When performing this STEP without performing STEP 1 as it has been already performed, calibrate the pressure in the tub when restarting or operating the nozzle for the first time. ※ If STEP 1 has not been performed before, perform STEP 1 first. (STEP 1 is not recognized as having been performed if STEP 1 is re-operated, STEP 6 has been performed or Auto Mode has been enabled.) ※ For models with vane, the vane must move back and forth when the bottom alternation is in progress. 3. [Manual Mode STEP 3: inspect the heater] - Set the alternation to the default position. - Circulation pump: operate BDLC Model at 2400RPM, and AC model at LOW Power setting. - Operate the heater after operating the circulation pump for 10 seconds. - Turn the heater off when the max. temperature reaches 73 degrees or the max. operation time passes 10 minutes. - During operation, the display alternates between the temperature of the heater and the current Step No. ※ When performing this STEP without performing STEP 1 as it has been already performed, calibrate the pressure in the tub when restarting or operating the nozzle for the first time. ※ If STEP 1 has not been performed before, perform STEP 1 first. Only "3" blinks during STEP 1 operation (no display of temperature). (STEP 1 is not recognized as having been performed if STEP 1 is re-operated, STEP 6 has been performed or Auto Mode has been enabled.) 4. [Manual Mode STEP 4: operate the dispenser] - Operate the dispenser for 130 seconds. 5. [Manual Mode STEP 5: operate the fan] 1) Operate the fan motor for 30 seconds. 6. [Manual Mode STEP 6: drain] 1) Operate the drain pump. 2) Follow the same steps as PreDrain. 3) If water level is not detected after draining, the drain inspection code is activated. 4) For models without low water level detection, proceed to the next step after draining without the drain inspection code.

Item	Related Parts	Symptoms	Description
Manual Mode Configuration			7. [Manual Mode STEP 7: operate Auto Door Open Actuator] 1) Operate Auto Door Open Actuator. - Operate Auto Door Open Actuator for 3 minutes and additional 30 seconds if the door opens. - If the door does not open after 3 minutes, the DC3 inspection code is activated.
Information Display			Each time Hi-Temp Wash Key is pressed while "AS“ displays, it makes [SOUND_KEYPUSH] sound and changes in the following order: n1 -> n2 -> n3 -> n4 -> n5 -> n1 -> n2-> n3...changes in a loop -When Auto Key is pressed while the information display mode is on, it makes [SOUND_KEYPUSH] sound and returns to Auto Mode.
n1: Version Display			When holding the following keys, the version displays alternating with "n1”: - Normal Course Key: Sub PBA Version Display - Heavy Course Key: Sub PBA Touch IC SW Version Display - Delicate Course Key: Model Option Display - Express (Quick) Key: Inverter PBA SW Version Display
n2: Inspection Code Display			- Each time Normal (Europe: Eco) Key is pressed, the code on display changes in a loop starting from the last saved code: C00 -> C10 -> C20 -> C30 -> C40 -> C50 -> C60 -> C00 -> ... - Up to 7 inspection codes can be saved, any additional code overwrites the oldest code. ※ Inspection codes are saved according to [Dish Washer - Inspection Mode - Inspection Recall Mode]. 1. Each time Heavy Key is pressed while inspection code is on display, the information about the condition which triggers the inspection code displays in sequence. ex: When C00 displays, it changes as follows: C00 -> C01 -> C02 -> C03 -> C04 -> C05 ->C06->... When C10 displays, it changes as follows: C10 -> C11 -> C12 -> C13 -> C14 -> C15 -> C10->... ※ CX1: X indicates the order of inspection code on display. C01: indicates the code ID which occurs most recently. 2. When the operation button is held for 7 seconds with the inspection code on display, it clears all the inspection code data.
n3: Smart Install Auto Mode Result Display			It determines based on the data saved in EEPROM. - Smart Install Auto Mode is successfully completed: it is indicated by "OK" - Smart Install Auto Mode is not successfully completed or not performed: it is indicated by "nG"

Item	Related Parts	Symptoms	Description
n4: Operation Cycle Display			- The max. value is 9999 and it does not go any higher. - When the finishing session is entered, Cycle Cnt increases unless Cancel & Drain has been enabled.
N5: Setting Dry Increase Option by Default			1) If Dry+ (or Sanitize) option is set to On by default, it indicates as "d1”. 2) If Dry+ (or Sanitize) option is not set to On by default, it indicates as "d0“. 1. To set Dry+ (Sanitize) option to On by default, use the Dry+ (Sanitize) option button to switch it On/Off [n5: Setting Dry Increase Option by Default mode only]. - When Dry+ (Sanitize) button is pressed, Dry+ (Sanitize) is set to On or Off by default. ※ For models without Dry+, the Sanitize button can be used to set the Sanitize option to On by default. [note] About This Option This option is designed to increase the drying performance by default in case there are consumer complaints. - If Dry+ (Sanitize) option can be set to On by default, it powers on and sets the Dry+ (Sanitize) option to On by default. - If the course does not support Dry+ (Sanitize) option setting, it is not set to On by default. - Even if the course is completed without using Dry+ (Sanitize) option, the last used course is set to On by the course save feature on its next power-on and Dry+ (Sanitize) option is set automatically depending on the default setting as long as Dry+ (Sanitize) option is set to On by default. - Even if Dry+ (Sanitize) option is automatically set by the default setting, it can be switched on/off by pressing Dry+ (Sanitize) Key.

■ Checkpoints after service request

1. Check the safety device
Check the operation of the door lock switch. Make sure that it is locked while the dishwasher is running and that the dishwasher stops running when the door is unlocked.

2. Use authentic Samsung replacement parts only
If any part is not authenticated, replace it with an authentic Samsung replacement part.

3. Handling wires
Check if any wires are loose or too tight, if they are connected correctly, if they are well bound with tape, and if they are properly clamped.

4. The state of screws and nuts
Check if the screws and nuts are fastened correctly.
Check whether they are fastened with the specified torque.

5. Remove foreign material
Check whether any foreign material such as soil, wire scraps and screws are in the dishwasher. (Check whether any foreign material is entering through the sump into the disposer.)

6. Check for water leakage
Check whether there is water leakage from the hose connector, door, case sump (drain motor, circulation motor, heater, thermistor, turbidity sensor, distributor motor), and the water supply/drain hoses.

7. Check the power cable
Check if there is any damage to the power cable or power outlet. Check that the voltages are correct.

8. Check leveling
Check to make sure the dishwasher is level.

9. Check the installation location
Check whether the installation location is flat and stable.

■ Cycle chart

Cycle	Pre-wash 1	Pre-wash 2	Pre-wash 3	Main wash	Rinse1	Rinse2	Rinse3	Last Rinse [Sanitize]	Dry	Water [gal(ℓ)]	Time (min)
Auto	●	○		● 131 - 145 ˚F (55 - 63 ˚C)	●	○	○	● 136-154 ˚F (58-68 ˚C) [163 ˚F (73 ˚C)]	●	4.9 - 8.4 (18.4 - 31.9)	110 - 149
Normal	●	○		● 131 - 145 ˚F (45 - 63 ˚C)	●	○		● 136-149 ˚F (58-65 ˚C) [163 ˚F (73 ˚C)]	●	3.1 - 7.2 (11.7 - 27.2)	103-170
Heavy	●	●		● 149 ˚F (65 ˚C)	●	●	●	● 154 ˚F (68 ˚C) [163 ˚F (73 ˚C)]	●	8.7 (33.1)	166
Delicate	●			● 122 ˚F (50 ˚C)	●			● 149 ˚F (65 ˚C)	●	5.0 (19.0)	103
Express 60				● 122 ˚F (50 ˚C)	●			● 140 ˚F (60 ˚C) [163 ˚F (73 ˚C)]	●	3.8 (14.3)	60
Rinse only					● 104 ˚F (40 ˚C)					1.3 (4.9)	17

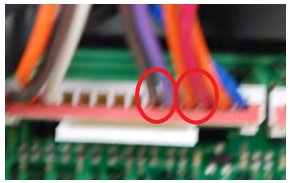
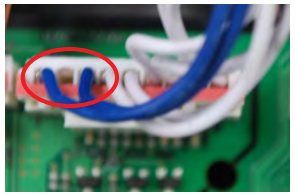
(● : Basic, ○ : Optional step)

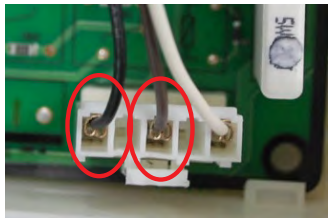
- The numbers in parentheses in the Last Rinse column represent the temperature when you select Sanitize.
- When you select the Auto or Normal cycle, you can eliminate the (flexible) steps depending on the soil level of the dishes.
- The water consumption and wash time varies depending on the steps or options you add, and on the pressure and temperature of the supplied water.
- When the Rinse Aid is empty, wash time and Last Rinse temperature can increase a little.

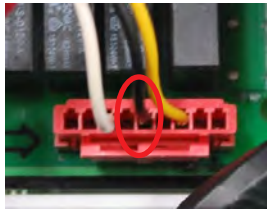
■ Check code trouble shooting

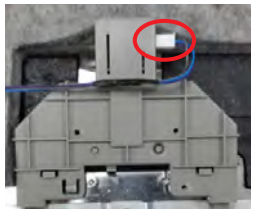
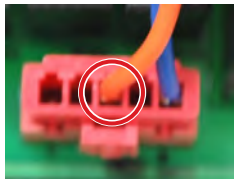
<table>
<tr><th>Check Type</th><th>Check Mode</th><th>Checking Method</th><th>Corrective actions</th></tr>
<tr><td rowspan="2">High Temperature Heating Check</td><td rowspan="2">HC</td><td>1. Check the hot water connections for the Inlet Valve.</td><td>- See the “Temperature Sensor Check”.</td></tr>
<tr><td>2. Check the operation of the Thermistor.</td><td>- See the “Heater Check”.</td></tr>
<tr><td>Leakage Check</td><td>LC</td><td>Check whether there is any trace of water leakage in the shutter.
● Normal: No water leakage trace</td><td>- Faulty: Check the leakage location. Replace the faulty part.
- Normal: Replace the Main PBA assy.</td></tr>
<tr><td rowspan="2">Temperature Sensor Check</td><td rowspan="2">tC</td><td>1. Check the connections for the Thermistor(or Assy Sensor ECS) connector.</td><td>- Reconnect the Thermistor(or Assy Sensor ECS) connector.</td></tr>
<tr><td>2. Check whether the Thermistor(or Assy Sensor ECS) is operating normally.
- Measure the voltage between both ends of the Thermistor (or Assy Sensor ECS).
● Normal: 0.2 to 4.5V
- Measure the resistance between both ends of the thermistor : Remove the connector before measuring. (DMT800/610/400/350, DW7933, DW80J3020)
- Measure the voltage between number 2 and 4 in the connector with power. (DW80F800, DW80F600)

► See the Table right
<table><tr><th colspan="5">THERMISTOR TABLE</th></tr><tr><th>Temp. (ºC)</th><th>Temp. (ºF)</th><th>Resistance (kΩ) [DMT800/610/400/350, DW7933, DW80J3020]</th><th>Current (Vdc) [DW80F800, DW80F600]</th><th>Resistance (kΩ)</th></tr><tr><td>5</td><td>41</td><td>125.78</td><td>0.865</td><td>133.219</td></tr><tr><td>10</td><td>50</td><td>98.323</td><td>1.026</td><td>103.638</td></tr><tr><td>15</td><td>59</td><td>77.454</td><td>1.203</td><td>81.249</td></tr><tr><td>20</td><td>68</td><td>61.465</td><td>1.393</td><td>61.477</td></tr><tr><td>25</td><td>77</td><td>49.12</td><td>1.594</td><td>51.042</td></tr><tr><td>30</td><td>86</td><td>39.517</td><td>1.804</td><td>39.51</td></tr><tr><td>35</td><td>95</td><td>31.996</td><td>2.018</td><td>31.985</td></tr><tr><td>40</td><td>104</td><td>26.065</td><td>2.234</td><td>25.024</td></tr><tr><td>45</td><td>113</td><td>21.358</td><td>2.447</td><td>21.347</td></tr><tr><td>50</td><td>122</td><td>17.599</td><td>2.656</td><td>17.59</td></tr><tr><td>55</td><td>131</td><td>14.579</td><td>2.475</td><td>14.573</td></tr><tr><td>60</td><td>140</td><td>12.14</td><td>3.048</td><td>12.136</td></tr><tr><td>65</td><td>149</td><td>10.159</td><td>3.228</td><td>10.157</td></tr><tr><td>70</td><td>158</td><td>8.542</td><td>3.396</td><td>8.541</td></tr></table></td><td>- Faulty: Replace the Thermistor(or Assy Sensor ECS).
- Normal: Replace the Main PBA assy.
 </td></tr>
</table>

Check Type	Check Mode	Checking Method	Corrective actions
Power Check	None	1. Check the connections for the power cable.	- Reconnect the power cable.
		2. Check the voltage of the power outlet. ● Normal: AC 120V	- Connect to a 120V power source.
		3.Check the wires of the Main PBA power part. - Measure the voltage between the black wire and the white wire of CN101. ● Normal: AC 120V	- Faulty: Check and replace the wires of the power part. - Check voltage
		4. Check the DC voltage of the Main PBA.	- See “Main PBA DC voltage Check”.
Main-PBA DC Voltage Check	None	Check the DC voltage of the Main PBA. - Measure the voltage between pin 4 (orange) of the main PBA CN302 connector and pin 6 (brown) of the CN301 connector. ● Normal: 4.5V to 5.5V - Measure the voltage between pin 9 (blue) of the main PBA CN301 connector and pin 11 (blue) of the CN301connector. ● Normal (Power Key On): 9.5V to 12.5V ● Normal (Power Key Off): 5.5V to 7.0V	- Faulty: Replace the Main-PBA Assy. - Check voltage (4.5V~5.5V)  - Check voltage (9.5V~12.5V or 5.5V~7.0V) 

Check Type	Check Mode	Checking Method	Corrective actions
The nozzle does not inject water.	None	1. Check the connections for the Circulation Motor connector.	- Reconnect the Circulation Motor connector.
		2. Check the connections for the Circulation Motor.	- Reconnect the Startup Condenser connector of the Circulation Motor.
		3. Check the resistance for the Circulation Motor coil. (Remove the connector before measuring.) ● Normal: Approx. 5.8 Ω	- Faulty: Replace the Circulation Motor. 
		4. Check whether there is foreign material in the water passages.	- Remove foreign material from the water passages.
The Cycle does not start.	None	1. Check the connections for the Door Sensing Switch : Check the blue wire and the switch connected to the blue wire. ● Normal (Power Key On): 9.5 to 12.5V (when the door is open) ● Normal (Power Key Off): 5.5 to 7.0V (when the door is open) ● Normal : <2V (when the door is closed)	- Reconnect the Door Sensing Switch connectors.
		2. Check the operation of the Door Sensing Switch. (Remove the connector before measuring.) : Check the blue wire and the switch connected to the blue wire. ● Normal: OPEN (when the door is open) ● Normal: SHORT (when the door is closed)	- Faulty: Replace the Door Sensing Switch. - Normal: Replace the Main PBA assy.
No Washing	None	1. Check whether the nozzle injects water normally.	- See “The nozzle does not inject water”.
		2. Check the operation of the Heater.	- See “Heater Check”.

Check Type	Check Mode	Checking Method	Corrective actions
Detergent is not dispensed.	None	1. Check whether detergent is inserted into the dispenser.	- Check whether there is detergent in the Dispenser.
		2. Check the connections for the Dispenser connector.	- Reconnect the Dispenser connector.
		3. Check the resistance of the Dispenser. (Remove the connector before measuring.) ● Normal: Approx. 2.3 kΩ	- Faulty: Replace the Dispenser.
		4.Check the operation of the Dispenser Relay. : Check the operating voltage between the white wire of the CN101 connector and the white black of the CN202 connector. ● Normal: 120V (while operating)	- Faulty: Replace the Main PBA assy. - Check voltage 

Check Type	Check Mode	Checking Method	Corrective actions
Dry is not satisfied.	None	1. Check whether Rinse Refill LED light or not.	- If Rinse Refill LED light, refill rinse in Dispenser.
		2. Check the wire connections for the Dry Fan Motor.	- Reconnect the Dry Fan Motor connectors.
		3. Check the resistance of the Dry Fan Motor coil. (Remove the connector before measuring.) ● Normal: Approx. 150 Ω	- Faulty: Replace the Dry Fan Motor assy.
		4. Check the resistance of the Thermal Actuator. (Remove the connector before measuring.) ● Normal: Approx. 1.45 kΩ	- Faulty: Replace the Thermal Actuator. 
		5.Check the operation of Thermal Actuator Relay : Check the operating voltage between the white wire of the C101 connector and the orange wire of the CN201 connector. ● Normal: 120V (while operating)	- Faulty: Replace the Main PBA assy. - Check voltage 
		6. Check the operation of the dispenser. ● If rinse aids are not dispensed, a dry error may occur. ● Because the dishes are heated and heat dried during the last drying cycle, the dried state of plastic dishes may not be optimal.	- See “Detergent is not dispensed”

Check Type	Check Mode	Checking Method	Corrective actions
LED or Input Key Fail	None	1. Check the connections for the Sub PBA connector.	- Reconnect the Sub PBA connectors..
		2. Check the LED and Input Key 1) Push ‘Hi-Temp Wash’ + ‘Sanitize’ + ‘Power Key’ Normal : All LED display 2) Push ‘Normal’~’Sanitize’ Normal : Each LED on 3) Push ‘Delay Start’ 8 times Normal : Wash LED → Rinse LED → Dry LED → Child Lock LED → Delay Start LED → Segment Dot → Rinse aid Refill LED → Info Light LED 4) Push ‘Start’ Normal : LED Display ‘1234’ 5) Push ‘Auto’ Normal : Version Display	- Faulty : Replace the Sub PBA.
		3. Check the DC voltage of the Main PBA.	- See “Main PBA DC voltage error”.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Will not start.	The door is not closed completely.	Check that the door is latched and closed completely.
	No cycle is selected.	Select a proper cycle.
	The power cable is not connected.	Connect the power cable properly.
	The water supply does not work.	Check that the water supply valve is open.
	Control panel is locked.	Unlock the child lock, (See user manual.)
	A circuit breaker is open.	Reset the circuit breaker.
It's taking too long with an operation or cycle.	Cold water is being supplied.	Check that the water supply line is connected to a hot water supply. (Additional time is required to heat cold water.)
There are food particles remaining on dishes. (Not cleaning properly.)	You selected an inappropriate cycle.	Select a cycle according to the number and soil level of the dishes, as directed in this manual.
	The water temperature is low.	Connect the water supply line to a hot water supply. For best performance, the temperature of the supplied water should be 120 ˚F (49 ˚C).
	Low water pressure.	The water pressure should be between 20 and 120 psi (140 - 830 kPa).
There are food particles remaining on dishes. (Not cleaning properly.)	The water is too hard.	Use a commercial dishwasher cleaner. Use high-quality, fresh detergent with rinse aid.
	Dishwasher detergent was not used.	Use automatic dishwasher detergent. We recommend a powder or gel type dishwasher detergent.
	Detergent remains in the dispenser.	Make sure large items such as cookie sheets, cutting boards, or contaners, etc. are not blocking the detergent dispenser and preventing it from opening properly. Rearrange the dishes so they do not interfere with detergent dispenser operation.
	There is no rinse aid.	Check the dispenser and add the rinse aid. Use liquid type rinse aid.
	A nozzle is clogged.	Clean the nozzle.
	The dishes are improperly loaded. Too many dishes have been loaded.	Rearrange the dishes so they do not interfere with nozzle rotation and detergent dispenser operation. Load only an appropriate number of dishes. Load your dishes as recommended. (See page 16.)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Leaves glasses with a dim polish.	The water supplied is soft and too much detergent was used.	Underload the dishwasher and use a rinse aid to minimize this.
	Aluminum dishes were included in the wash load.	Remove the marks on the dishes using a low sensitivity cleaner.
Leaves a yellow or brown film on the inside of the dishwasher.	This is caused by coffee and tea soils.	Remove the soils using a spot cleaner.
Does not dry dishes well.	There is no rinse aid in the dispenser.	Check the dispenser and add the rinse aid. Use a liquid type rinse aid.
	The temperature of the water is low when the dishwasher is running.	Connect the water supply line to a hot water supply. Use rinse aid with the Sanitize option.
	Too many dishes have been loaded.	Proper loading of items can affect drying. Load your dishes as recommended.
	Glasses and cups with concave bottoms hold water. This water may spill onto other items when unloading.	After finishing the cycle, empty the lower rack first and then the upper rack. This will prevent water dripping from the upper rack onto the dishes in the lower rack.
Has a bad odor.	Water was left over from an incomplete cycle.	Insert detergent without loading dishes, and run the Normal cycle to clean the dishwasher.
	The Drain Hose is obstructed.	Contact a qualified service technician to remove any obstruction from the drain hose.
	The dishwasher is not used daily or soiled dishes are left in unit too long.	With the dishwasher empty and no detergent, place a glass with 8 ounces of vinegar upright into the lower rack, and then run a Normal cycle.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Is too noisy.	Sound is generated when the dispenser cover is open and the drain pump is operating in an early stage.	This is normal operation.
	The dishwasher is not level.	Ensure the dishwasher is level.
	Foreign material (a screw, a plastic piece) is in the pump chamber.	Contact a qualified service technician to remove foreign material from the pump chamber.
	There is a ‘chopping’ sound because a nozzle is bumping against the dishes.	Rearrange the dishes.
Does not have a smoothly rotating nozzle.	The nozzle hole is clogged with food particles.	Clean the nozzle hole.
	The nozzle is blocked by a dish or pot and cannot rotate.	After placing the dishes into the racks, rotate the nozzles by hand to check whether any of the dishes interfere with them.
Water won’t pump out of the dishwasher.	The drain is clogged.	Contact a qualified service technician to remove any obstruction from the drain hose and check the drain pump operation.
Has a bent upper rack after loading dishes.	The dishes are not loaded properly.	Load your dishes as recommended.

5. PCB DIAGRAM

5-1. MAIN PBA

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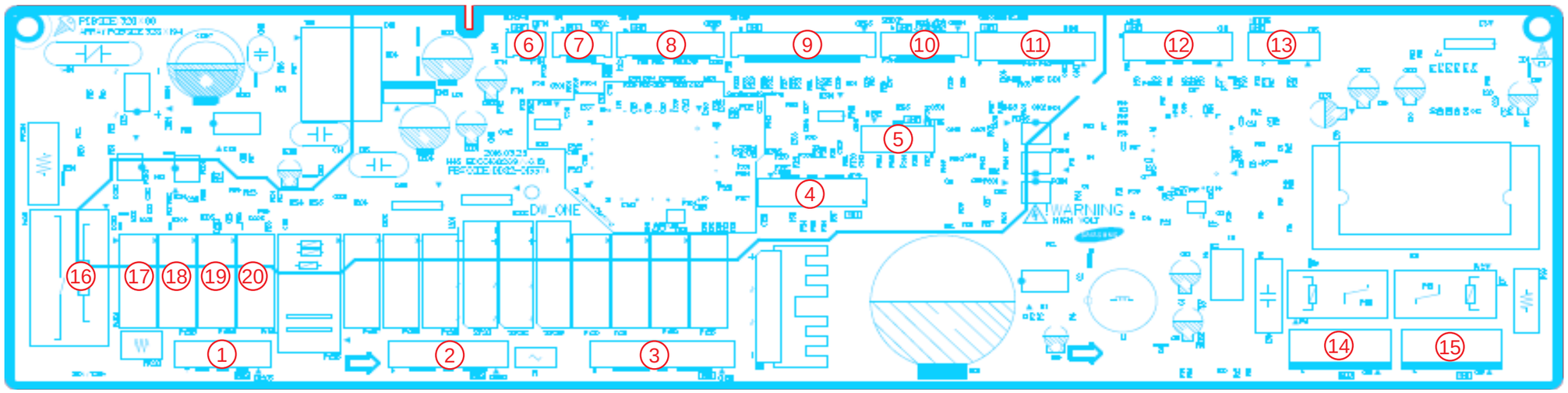

No.	Location	Description
1	CN203	Connector for AC Drain Pump, Auto Door Actuator, BLDC Pump
2	CN202	Connector for Lower Vane Forward, Water Valve, Dispenser, Distributor Motor, PUMP AC2
3	CN201	Connector for Lower Vane Forward, Dry Actuator, Water Softner Valve, Dry Fan Motor AC, Valve Water Tank
4	CN301	Connector for JTAG of Main MICOM
5	CN302	Connector for Flash Write of Main MICOM
6	CN701	Connector for BLDC Fan for Dry
7	CN502	Connector for WIFI Communication
8	CN503	Sensing Connector (refer to next page for details)
9	CN505	Sensing Connector (refer to next page for details)
10	CN504	Sensing Connector (refer to next page for details)
11	CN401	Connector for Sub Communication
12	CN4	Connector for JTAG of Inverter MICOM
13	CN3	Connector for Flash Write of Inverter MICOM

No.	Location	Description
14	CN8	Connector for BLDC Drain
15	CN6	Connector for BLDC Pump
16	RY201	Source Relay
17	RY204	BLCD Power Inrush Relay
18	RY203	BLDC Pump Relay (Pump AC1)
19	RY202	Auto Door Actuator Relay
20	RY215	AC Drain Pump Relay

MAIN PBA(CONT.)

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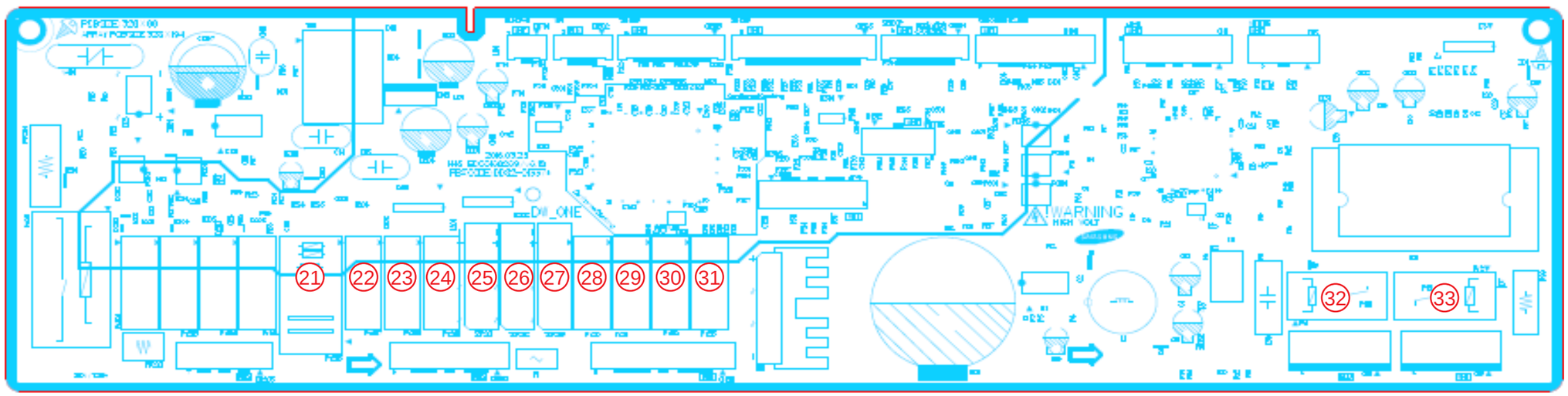

No.	Location	Description
21	RY205	Wash Heater Relay
22	RY207	Pump AC2 Relay
23	RY208	Distributor Motor Relay
24	RY209	Dispenser Relay
25	SSR201	Water Valve Relay
26	SSR202	Lower Vane Forward Relay
27	SSR203	Lower Vane Backward Relay
28	RY210	Dry Actuator Relay
29	RY211	Water Softner Valve Relay

No.	Location	Description
30	RY212	Dry Fan Motor AC Relay
31	RY213	Valve Water Tank Relay
32	RY1	BLDC Pump U Relay
33	RY2	BLDC Pump V Relay

5-2. PCB DIAGRAM

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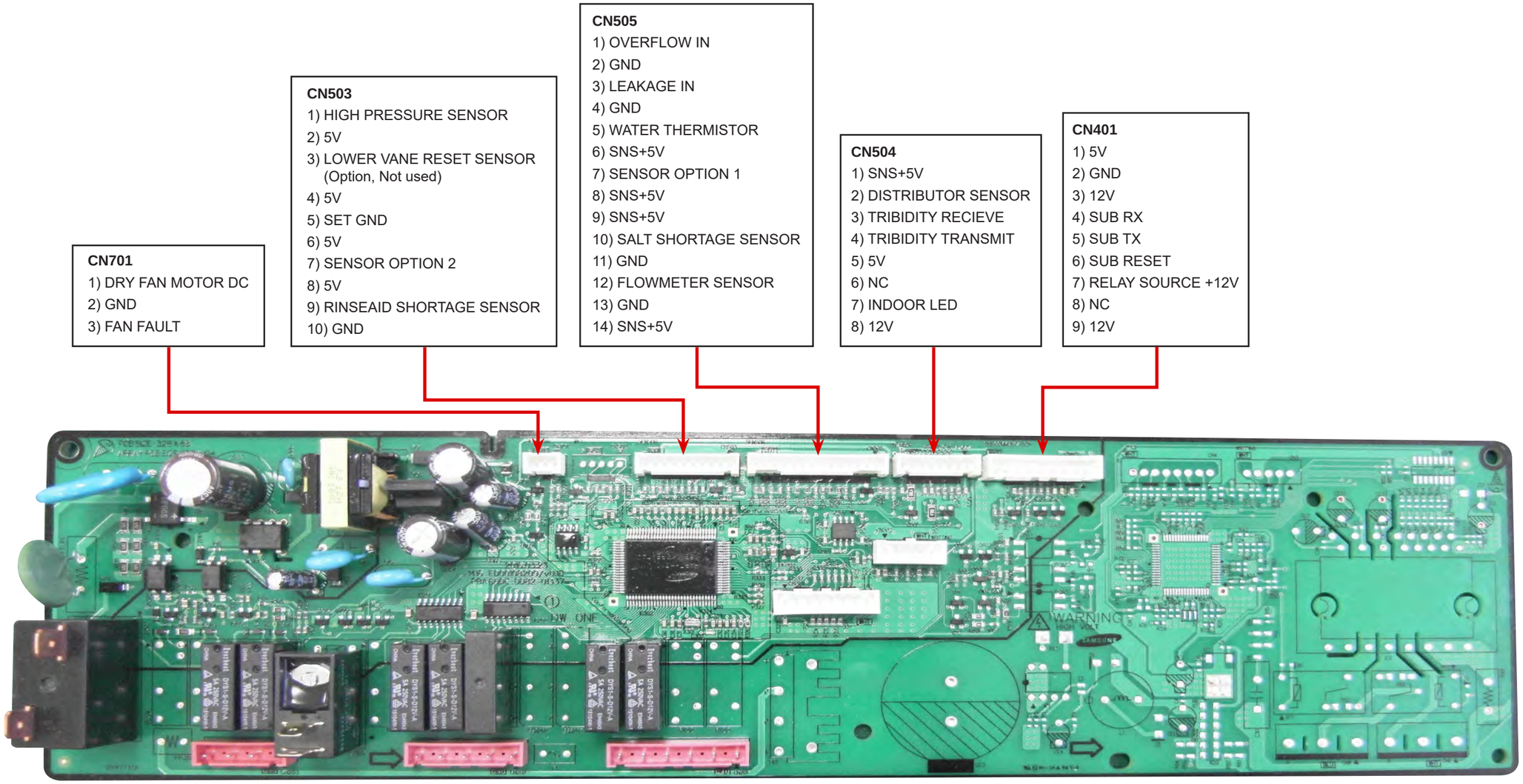

PCB DIAGRAM(CONT.)

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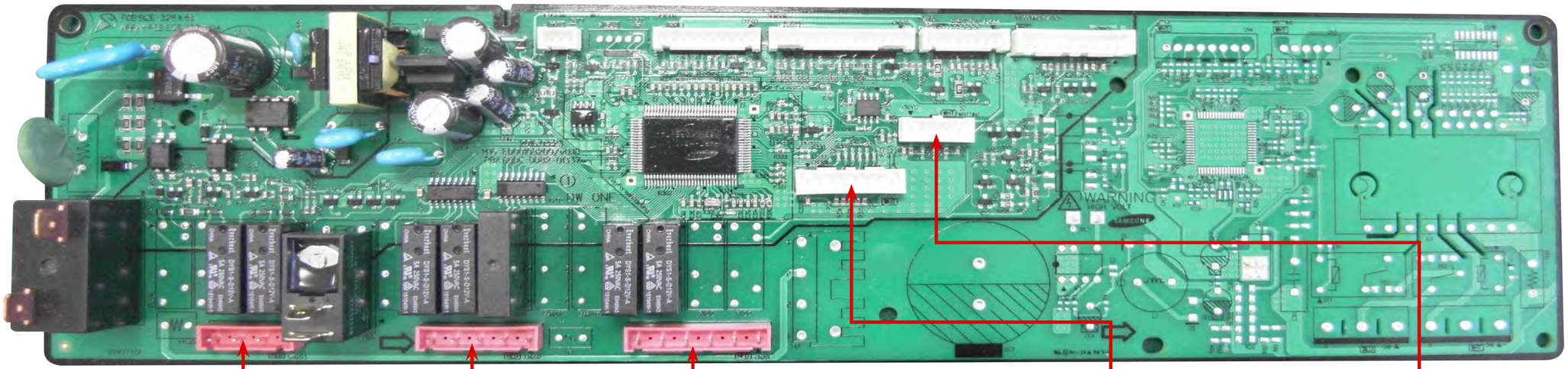

CN203
1) NC
2) NC
3) AC DRAIN PUMP
4) NC
5) AUTO DOOR OPEN
6) NC
7) BLDC(Option, Not used)

CN202
1) LOWER VANE FORWARD (Option, Not used)
2) NC
3) WATER VALVE
4) NC
5) DISPENSER
6) NC
7) DISTRIBUTOR MOTOR
8) NC
9) PUMP AC2

CN302
1) NC
2) NC
3) VALVE WATER TANK (Option, Not used)
4) NC
5) DRY FAN MOTOR AC
6) NC
7) WATER SOFTNER VALVE (Option, Not used)
8) NC
9) DRY ACTUATOR
10) NC
11) LOWER VANE BACKWARD (Option, Not used)

CN301
1) 5V
2) JTAG RESET
3) nTRST
4) TDI
5) TDO
6) TCK
7) TMS
8) GND

CN302
1) 5V
2) RX FROM TEST
3) TX TO TEST
4) GND
5) BOOT

6. WIRING DIAGRAM

6-1. WIRING DIAGRAM

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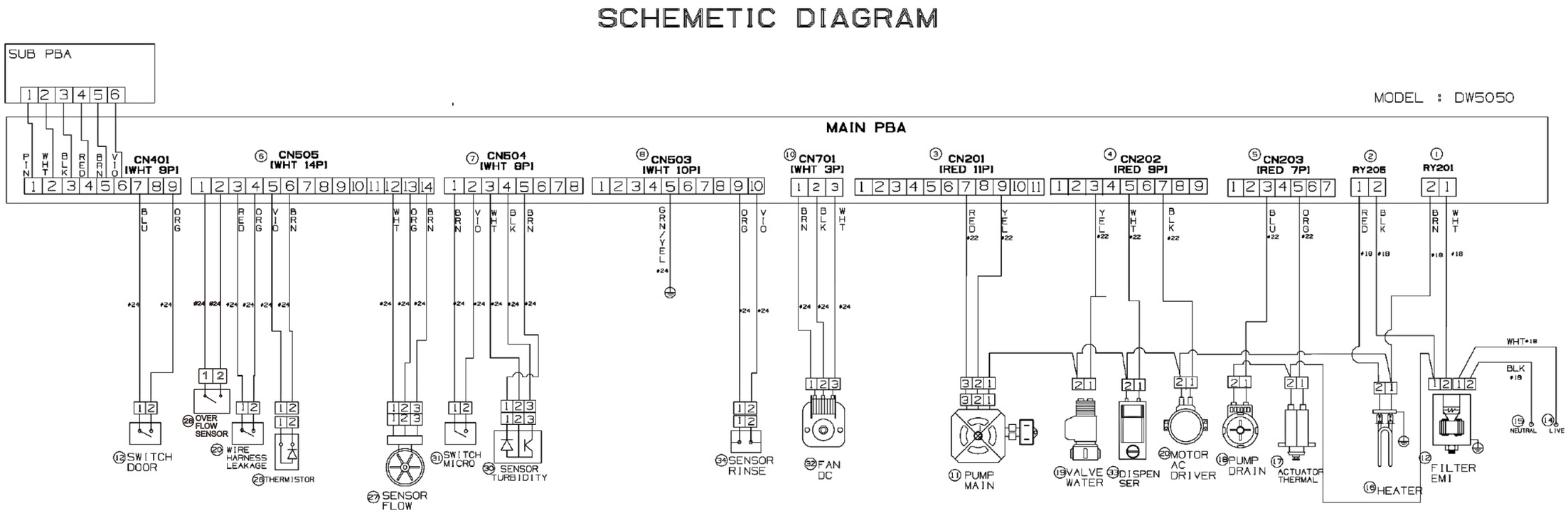
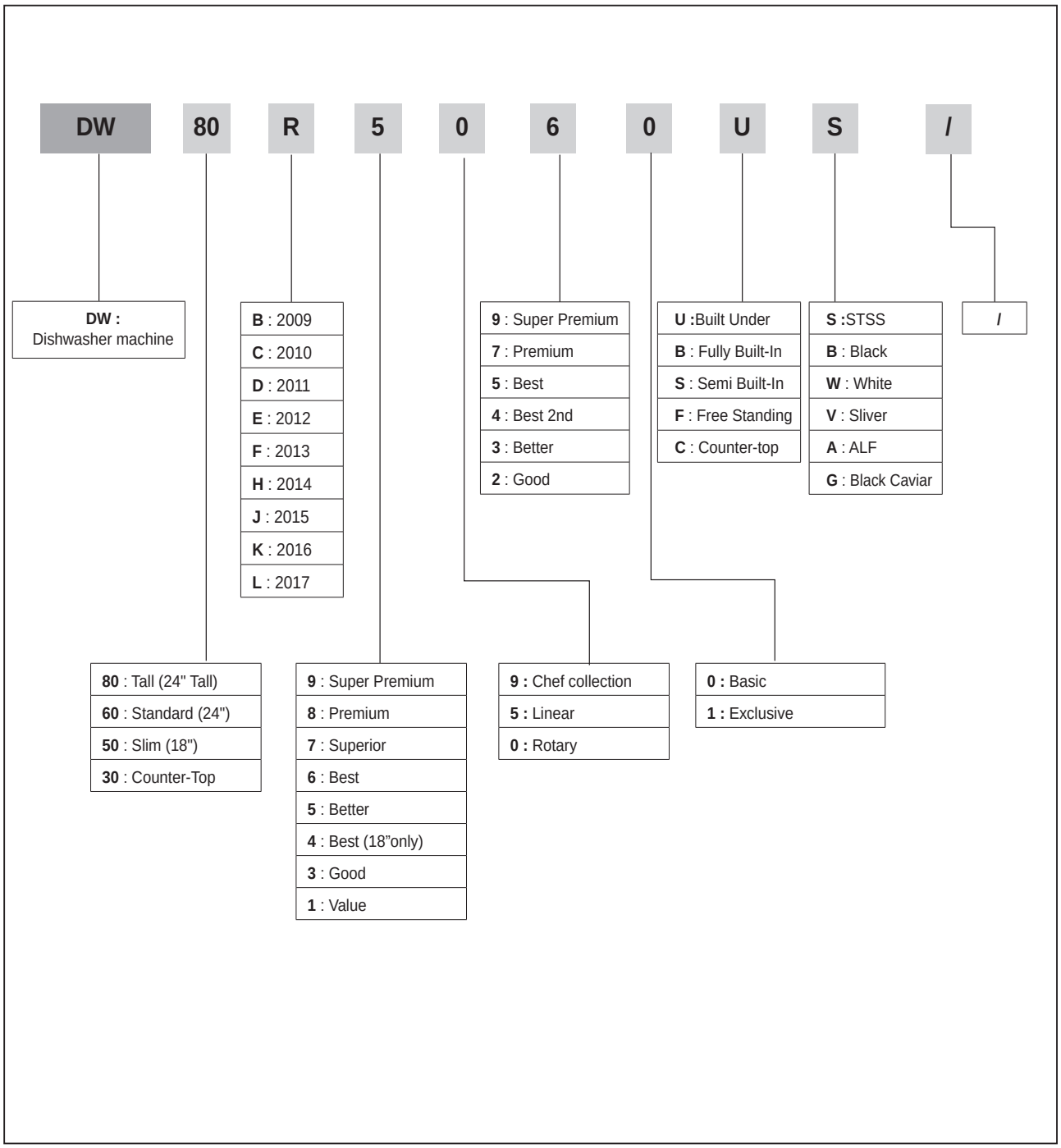


7. REFERENCE

7-1. MODEL NUMBER NAMING RULES



7-2. TERMINOLOGY

1. **Circulation Motor**
   A motor that sucks the water remaining on the floor of the dishwasher and injects water using high pressure through the internal water passages to the top, middle and lower nozzles.

2. **Drain Pump**
   The pump that drains the polluted water from the dishwasher generated while the dishwasher is running.

3. **Heater**
   The heater is located on the water passages inside the dishwasher.
   It heats the flowing water to increase wash efficiency.

4. **Flow Meter**
   Measures the amount of supplied water by counting the pulses of the hall IC located at the next of the Inlet valve.

5. **Distributor**
   Located at the output end of the sump inside the dishwasher. It turns the flow of the water that goes to the bottom part of the dishwasher on or off.

6. **Dispenser**
   The location where the detergent and rinse aids are stored so they can be used by the dishwasher.
   The dispenser automatically supplies detergent and rinse aids to the inside of the dishwasher when they are needed.

7. **Tub Assy**
   An internal case made of stainless steel that makes up the basic framework of the dishwasher.

8. **Sump Assy**
   The place inside the dishwasher where water is collected. The injected water gathers here after circulation.
   The sump Assy is connected to the circulation motor, drain pump, and distributor motor.

9. **Tub Front Assy**
   An internal case made of stainless steel that makes up the internal part of the front door.

10. **Base Assy**
    A plastic part that makes up the basic bottom framework.

11. **Basket Assy**
    The upper and lower racks where dishes can be loaded.

12. **Top/Middle/Lower Nozzles**
    Washes dishes by rotating and injecting the supplied water through the water passages at high pressure.

13. **Case Brake**
    A passage that adjusts the air pressure by connecting the pressure of the inside air which is expanded at high temperature during the wash and rinse cycles and the outside air pressure.

14. **Door Lock Switch**
    Detects whether the door of the dishwasher is open or closed. If the door is open while the dishwasher is running, the cycle is temporary stopped.

15. **Child Lock/Unlock**
    This function is used to prevent a child from operating the dishwasher while it is running.

SAMSUNG

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